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REMARKS

Claims 27-36 and 38 were presented for examination. The Office Action mailed June 27, 2005 allows claims 27-36 and rejects claim 38. Claims 27-36 and 38 are pending in the application.

Applicants thank the Examiner for the courtesy of a telephone interview on August 16, 2005 during which Applicants' representative William Guerin and the Examiner discussed the rejection of claim 38 with respect to U.S. Patent No. 5,583,688 and the use of the phrase "viscous interaction."

Rejection of claim 38 under 35 U.S.C. § 103(a)

The Office Action rejects claim 38 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,583,688 by Hornbeck (hereafter "Hornbeck"). Applicants respectfully traverse the rejection.

Hornbeck describes prior micro-mirror devices which have hinge support posts shared by multiple adjacent mirrors in the device so that collapse of a hinge support post results in the failure of multiple mirrors. Hornbeck teaches a micro-mirror device having hinge support posts that are specific to each mirror in the device (see FIG. 1). As a result, each mirror is mechanically isolated from adjacent mirrors in the device, and collapse of a hinge support post results in a failure of only a single mirror.

Applicants' invention as set forth in claim 38 recites in pertinent part "blocking dams disposed between the mirrors to block viscous interaction between each of the two dimensional deflecting mirrors and adjacent ones of the two-dimensional deflecting mirrors." Support for this amendment can be found at least on page 15, line 12 to page 16, line 4, and on page 29, line 5 to page 32, line 7 of Applicants' specification.

Applicants agree with the statement in the Office Action that Hornbeck does not have a mechanical connection between the hinge support and adjacent elements and, therefore, if

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one element experiences a structural failure, the failure does not lead to a collapse of the adjacent mirror elements. Applicants, however, respectfully disagree with the subsequent statement that structural or mechanical failure of devices would cause viscous interaction.

Viscous interaction between mirrors is disclosed in multiple places within Applicants' specification. For example, Applicants disclose "the incorporation of dams between adjacent mirrors to reduce interaction of viscous flow of one mirror with the adjacent mirrors" (see page 15, lines 2-6). In another example, Applicants disclose that when a mirror frame is deflected fast, "it exerts a force on adjacent scanners through viscous interaction with the ambient gas in which the mirrors reside" (see page 29, lines 5-7). In yet another example, Applicants disclose that "[i]t is also possible to overcome the viscous interaction effect by directing the momentum of the air movement produced by one mirror as much as possible away from its nearest neighbors" (see page 31, lines 19-22).

Applicants use of the terminology "viscous interaction" is consistent with the dictionary definitions of viscous and interaction. The Merriam-Webster OnLine dictionary (www.m-w.com/home.htm) defines viscous as "having or characterized by viscosity," defines viscosity as "the property of resistance to flow in a fluid or semifluid," and defines interaction as "mutual or reciprocal action or influence." Thus, Applicants consistent use of "viscous interaction" throughout the specification and in claim 38 is appropriate for referring to the interaction between mirrors caused by motion of air due to mirror deflection.

Viscous interactions are in general unrelated to the failure or collapse of a mirror structure as disclosed in Hornbeck. Moreover, viscous interactions are effects that are encountered during normal operation of the device. The disclosed support posts would have minimal, if any, impact on viscous interactions. Hornbeck discloses or suggests no other structures that would perform the function of Applicants' blocking dams. Moreover, Hornbeck is silent with respect to how viscous interactions occur or influence operation of a micro-mirror device.

Thus Hornbeck does not teach or suggest blocking dams disposed between the mirrors to block viscous interaction between each of the two dimensional deflecting mirrors and

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adjacent ones of the two-dimensional deflecting mirrors. Because Hornbeck does not teach or suggest all limitations of the Applicants invention as recited in claim 38, Applicants respectfully submit that the rejection is overcome.

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CONCLUSION


In view of the arguments made herein, Applicants submit that the application is in condition for allowance and requests early favorable action by the Examiner.

If the Examiner believes that a telephone conversation with the Applicants' representative would expedite allowance of this application, the Examiner is cordially invited to call the undersigned at (508) 303-2003.

Respectfully submitted,

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